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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,166	12/04/2001	Pavel I. Lazarev	A-71153/AJT	2857

7590 05/11/2004

FLEHR HOHBACH TEST ALBRITTON & HERBERT LLP
Suite 3400
Four Embarcadero Center
San Francisco, CA 94111-4187

EXAMINER

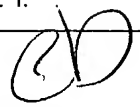
HON, SOW FUN

ART UNIT PAPER NUMBER

1772

DATE MAILED: 05/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/006,166	Applicant(s) LAZAREV, PAVEL I.	
	Examiner Sow-Fun Hon	Art Unit 1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>02/13/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The amendment of the abstract has been entered. The objection is withdrawn.

Withdrawn Rejections

3. The 35 U.S.C. 112, 2nd paragraph rejection of claim 3 has been withdrawn due to the amendment filed 02/13/04. In amending claim 3 to depend solely on claim 2, Applicant has narrowed the scope of claim 3 and the claims dependent on claim 3.

Rejections Repeated

4. The 35 U.S.C. 102(b) and 103(a) rejections have been repeated for the same reasons previously of record in the Office action mailed 10/08/03.

Response to Arguments

5. Applicant's arguments filed 02/13/04 have been fully considered but they are not persuasive.
6. Applicant argues that EP 0961138 (Miroshin et al. or Belyaev et al.) does not teach that the layer of liquid crystal between panels of functional layers has parameters providing

Art Unit: 1772

interference extremum at the exit of the display since '138 teaches a polarizer of interference type providing interference extremum at the output of the polarizer. In doing so, Applicant is stating that the output of the polarizer of '138 comprising the liquid crystal layer does not correspond to the output at the exit of the liquid crystal display in terms of interference extremum transmission.

Applicant is respectfully apprised that '138 teaches that the liquid crystal element is based on the output of the polarizer (abstract). Hence the output at the exit of the display corresponds to the output of the polarizer, and has the interference extremum for at least one linearly polarized component of light, for at least one wavelength of light transmitted.

7. Applicant reminds the Office that the condition of providing interference extremum at the exit of the display is present in a Markush group which contains two other conditions, one providing interference extremum at the boundary between at least two functional layers, and the other one providing interference extremum at the boundary between the liquid crystal material and a functional layer, thus implying that '138 meets one of the latter two conditions instead.

Applicant is respectfully requested to further specify the relationship between the liquid crystal layer and the other functional layers in the claims in order to better distinguish the interaction of the liquid crystal layer with the other functional layers over the prior art.

8. Applicant argues that the film formed by the oriented liquid crystalline dye in '138 is not crystalline since manufacturing conditions must be met to produce crystalline structures for anisotropic crystalline films, as evidenced by WO 02/63660.

Applicant is respectfully reminded that '138 does teach the mechanical ordering of the liquid crystals (column 10, lines 45-50). WO 02/63660 teaches a method of obtaining a high

Art Unit: 1772

degree of crystallinity ('660, column 2, lines 5-10) from similar liquid crystalline dye materials such as sulfonated indathrone ('660, column 3, lines 25-30), of which 3-chlorindanthrone 4,4'-disulfoacid ('138, column 18, lines 20-25) is a chlorinated analog.

9. Applicant's arguments with respect to whether or not the interference extremum output of the polarizer corresponds to the output of the liquid crystal display at the exit of the display, have been addressed above.

10. Applicant argues that '138 does not provide any teaching on the selection of parameters to provide interference extremum at the exit of the display, and submits that coordinating the numbers and parameters of all layers in the display to provide interference extremum at the exit of the display is not obvious due to the different functions of the different elements of the display.

Applicant is respectfully reminded that '138 does teach the selection of index of absorption in the operating wavelength range, layer thickness, interference order and refractive index in obtaining the interference extremum (column 7, lines 50-60).

Applicant is also respectfully reminded that Applicant has not specified what the different elements are, except in a Markush group, how they relate to each other in terms of spatial configuration from the exit of the display, and in terms of light wave interference profile relative to the distance from the exit of the display, in order to provide a showing of unobviousness in terms of unexpected results.

11. Applicant argues that electrode layers in a display are traditionally isotropic. Applicant is respectfully apprised that anisotropic electrodes in displays are common as evidenced by US 4,719,152.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (571)272-1492. The examiner can normally be reached Monday to Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached at (571)272-1498. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Application/Control Number: 10/006,166

Page 6


Art Unit: 1772

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

8/17

Sow-Fun Hon

04/30/04


HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

5/4/04